

PATENT ABSTRACTS OF JAPAN

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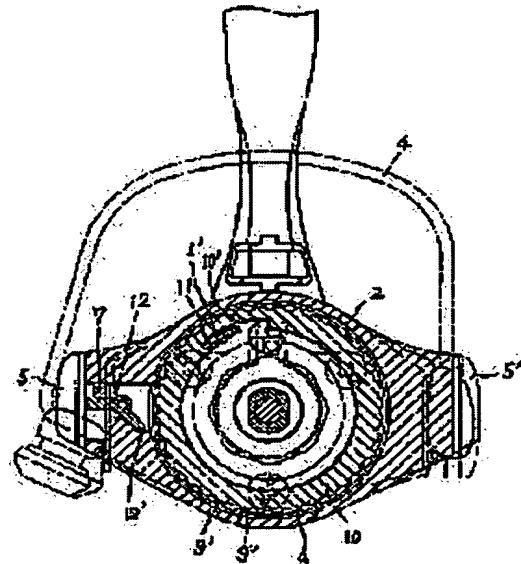
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(54) SPINNING REEL FOR FISHING

(57)Abstract:

PROBLEM TO BE SOLVED: To facilitate the operation of fishline release from a spinning reel in fishing by surely reversing and holding a bail to a line-releasing position in the case where the bail is reversed in order to release the fishline from the spinning reel.

SOLUTION: A bail 4 attached to a rotor 2 that operatively connected to a handle 3 is energized so that it may be freely reversed from a fishline-winding up position to a fishline-releasing position and vice versa. An uneven part 9 for engagement is provided on a reel body in its circumferential direction so that the part 9 may be made rotatable in a small range. Thus, the bail 4 is surely held on the fishline-releasing position, while an engaging nail 12 is slightly rotated with the impact action of the connection nail 12 on the uneven part 9 and the engaging nail 12 is engaged with a depression of the uneven part 9.



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CLAIMS

[Claim(s)]

[Claim 1] The engagement pawl interlocked with a reversal operation of said bail while forming in a fishing line rolling-up location and a fishing line emission location the bail prepared in the rotor which is interlocked with a handle and rotated free [symmetry] possible [reversal] is formed in said rotor. In the spinning reel for fishing which forms in the engagement concave heights which formed this engagement pawl in the hoop direction of the body of a reel in the fishing line emission location of a bail free [engagement], and was made to carry out the reversal return of said bail by rotation of a rotor in a fishing line rolling-up location The spinning reel for fishing characterized by forming so that only the small range may support said engagement concave heights rotatable on the body of a reel, engagement concave heights may be rotated in a **** operation of the engagement pawl to said engagement concave heights and an engagement pawl may be engaged with the crevice.

[Claim 2] The spinning reel for fishing according to claim 1 characterized by having energized engagement concave heights in the inversion direction of a rotor by means of a spring, and supporting them in it.

[Claim 3] The spinning reel for fishing according to claim 1 or 2 characterized by supporting an engagement pawl rotatable on a rotor, rotating engagement concave heights in the rotation **** operation, and making it engage with a crevice.

[Claim 4] The spinning reel for fishing according to claim 1 or 2 characterized by having formed the engagement pawl in engagement concave heights free [engagement] from the shaft orientations, having formed the engagement inclination-cam-die side in said engagement pawl and the heights of engagement concave heights, respectively, and forming so that engagement concave heights may be rotated in the **** operation over the engagement inclination-cam-die side of the engagement concave heights of the engagement inclination-cam-die side of an engagement pawl and an engagement pawl may be engaged with a crevice.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to amelioration of the bail reversal device in the spinning reel for fishing.

[0002]

[Description of the Prior Art] Although the bail reversal device in the spinning reel for fishing is constituted so that you may make it the bail reversed in the fishing line emission condition for the mechanism throw interlocked with rotation actuation of a handle and it may return to a fishing line rolling-up condition Since the symmetry operation to the fishing line emission location and fishing line rolling-up location of a bail has gone by the energization operation of a DETTO point spring, Moreover, only for one place, the inlet length of the bail reversal device according [the reversal concave heights prepared in the body of a reel] to rotation of a rotor becomes long, and a handle rotates with the inertial force at the time of a mechanism throw. There is a trouble of a bail reversal device incorrect-operating, and a bail returning to a fishing line rolling-up location, and cutting the fishing line under emission. Then, preventing the reversal return of the bail at the time of a mechanism throw, as it engages with the engagement concave heights which formed the engagement pawl formed in the rotor at the time of the reversal to the fishing line emission location of a bail in the body of a reel is known so that JP,56-68471,U and JP,56-111675,U may see that this defect should be canceled.

[0003]

[Problem(s) to be Solved by the Invention] However, when said each of well-known methods changes into the condition of an engagement pawl having not engaged with the crevice of engagement concave heights at the time of reversal actuation of a bail by the relative position of the engagement pawl formed in the rotor when making a fishing line emission condition reversing a bail, and the engagement concave heights formed in the body of a reel, but having run aground to heights, Bail reversal actuation at the time of a mechanism throw cannot be ensured smoothly, but there is a trouble of making a fishing actuation function falling. This invention offers the bail reversal device of a spinning reel in which improve such a trouble and it enabled it to ensure always smoothly reversal actuation of the bail at the time of a mechanism throw, and aims at improving a fishing actuation function.

[0004]

[Means for Solving the Problem] The engagement pawl interlocked with a reversal operation of said bail while forming in a fishing line rolling-up location and a fishing line emission location the bail prepared in the rotor which is interlocked with a handle and rotated free [symmetry] possible [reversal] in order that this invention may attain said purpose is formed in said rotor. In the spinning reel for fishing which forms in the engagement concave heights which formed this engagement pawl in the hoop direction of the body of a reel in the fishing line emission location of a bail free [engagement], and was made to carry out the reversal return of said bail by rotation of a rotor in a fishing line rolling-up location It is what is characterized by forming so that only the small range may support said engagement concave heights rotatable on the body of a reel, engagement concave heights may be rotated in a **** operation of the engagement pawl

to said engagement concave heights and an engagement pawl may be engaged with the crevice. Especially when said engagement concave heights are energized in the inversion direction of a rotor by means of a spring, reversal actuation of a bail can be ensured further smoothly. Moreover, when fixing said engagement pawl to revolve rotatable on a rotor, rotating engagement concave heights in the rotation **** operation and engaging this with a crevice, Engagement concave heights may be rotated in a **** operation of the engagement inclination-cam-die side which formed the engagement pawl from the shaft orientations free [engagement] to engagement concave heights, and was formed in an engagement pawl and the heights of engagement concave heights, respectively, and an engagement pawl may be engaged with a crevice.

[0005]

[Embodiment of the Invention] If the gestalt of operation of this invention is explained about the example of a drawing While the rotor 2 supported by the anterior part of the body 1 of a reel of a spinning reel pivotable is constituted so that it may be well-known, and interlocking rotation may be carried out with rotation of a handle 3 Bail support arm 5 and 5' supported to revolve for the both ends of a bail 4 to which it shows a fishing line so that it may be well-known, enabling this and free reversal are prepared in the both sides in one. Moreover, the actuation member 7 which is interlocked with a reversal operation of said bail 4 at said bail support arm 5, and has the DETTO point spring 6 is formed. It is constituted so that the bail 4 in which said reversal is free may be distributed to a fishing line rolling-up location and a fishing line emission location and may be energized by the energization force of said DETTO point spring. Furthermore, by carrying out both-way sliding of the spool 8, while the spool 8 in which order sliding is free is supported by the anterior part of a rotor 2 by rotation of a handle 3 and rotating a rotor 2 by the handle 3 It is formed so that a fishing line can be wound around spool 8 with the bail 4 in a fishing line rolling-up location.

[0006] While the annular solid 10 which has the engagement concave heights 9 in the periphery section is supported by the anterior part periphery section of said body 1 of a reel rotatable before and behind the small range, for example, 10 degrees, the spring 11 stopped by stop section 1' of the body 1 of a reel in the end is supported by notch 10' formed in the periphery, and it is formed so that the annular solid 10 which has said engagement concave heights 9 may be energized in the inversion direction of a rotor 2. Moreover, the engagement pawl 12 is fixed to revolve by the base of said support arm 5 free [engagement to said actuation member 7], and the tip claw part is formed in it free [engagement] at said engagement concave heights 9.

[0007] Therefore, if the energization force of the DETTO point spring 6 is resisted and the bail 4 of the rotor 2 held at the inversion prevention condition is reversed in a fishing line emission location in order to emit a fishing line The engagement pawl 12 is what it rotates by the actuation member 7 and claw part 12' **** to heights 9' of said engagement concave heights 9, and engages with 9" of the crevice, resisting a spring 11 and making this rotate slightly, and carries out stop maintenance of the bail 4 in a fishing line emission location. Moreover, if a rotor 2 is rotated in the fishing line rolling-up direction by the handle 3 in this condition It rotates and, in a fishing line rolling-up location, the engagement pawl 12 which is engaging with 9" of crevices of the engagement concave heights 9 carries out the reversal return of the bail 4 more by the symmetry energization force of the DETTO point spring 6 through the actuation member 7, and a bail 4 stops a fishing line and it winds it around spool 8.

[0008] The example shown in drawing 10 thru/or drawing 15 While the engagement pawl 12 which carried out bending formation of the engagement pawl 12 which has the engagement inclination-cam-die side 13 at a tip at one is formed in the lower limit of the actuation member 7 interlocked with a bail 4 free [engagement to the engagement inclination-cam-die side 14 formed in the back side face of the heights 9' from the shaft orientations of the annular solid 10 of the engagement concave heights 9] A DETTO point spring is prepared in bail support arm 5' of another side without preparing in the actuation member 7, and it is constituted so that a bail 4 may be distributed to a fishing line winding location and a fishing line emission location and may be energized.

[0009] Therefore, although it engages with this as it is when the actuation member 7 is moved to

the drawing 12 fishing line emission location from the ***** picking location of drawing 11 by reversal of a bail 4 and the engagement pawl 12 is in the location which is 9" of crevices of the engagement concave heights 9. When the engagement pawl 12 is in the location of heights 9' The engagement inclination-cam-die side 13 of the engagement pawl 12 is what resists a spring 11 in the engagement concave heights 9, rotates this slightly, engages with 9" of the crevice, and holds a bail 4 in a fishing line emission location while engaging with the engagement inclination-cam-die side 13 of heights 9' of the engagement concave heights 9. If a rotor 2 is rotated to ***** and ***** in this condition As shown in drawing 11 , a bail 4 returns to a ***** picking location in a symmetry energization operation of the DETTO point spring of bail support arm 5', the engagement pawl 12 estranges the actuation member 7 from the engagement location of the engagement concave heights 9, a bail 4 stops a fishing line and it winds it around spool 8, so that it may be well-known.

[0010]

[Effect of the Invention] Only the small range forms in the body of a reel the engagement concave heights with which an engagement pawl engages in case this invention reverses a bail in the fishing line emission condition from a fishing line rolling-up condition and a fishing line is emitted rotatable. Since it was made for a **** engagement operation of the engagement pawl by reversal actuation of a bail to make an engagement pawl engage with the crevice of engagement concave heights, rotating engagement concave heights slightly Reversal maintenance of the bail can be carried out always quickly certainly in a fishing line emission location, without being influenced by the relative-position relation between an engagement pawl and engagement concave heights, throw actuation of a fishing line can be performed always smoothly easily, and a fishing actuation function can be improved.

[0011] Moreover, when said engagement concave heights supported pivotable are energized in the inversion direction of a rotor by means of a spring, the engagement operation over the crevice of the engagement concave heights by the engagement pawl can be ensured still more smoothly, and the reversal actuation function of a bail can be improved.

[0012] Furthermore, when fixing the engagement pawl in this invention to revolve, enabling free rotation and making it engage with the crevice of engagement concave heights in the rotation **** operation, while a rotation **** operation of an engagement pawl is performed in the shape of engagement within the same field as engagement concave heights and an engagement operation of an engagement pawl becomes that it is smoothly easy, an advantage also with the simple configuration of both engagement device is.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is a notching front view at the time of ***** picking of this invention a part.

[Drawing 2] It is a notching front view at the time of ***** picking of this invention a part.

[Drawing 3] Drawing 1 A-A line sectional view.

[Drawing 4] The vertical section front view at the time of ***** picking of this invention important section.

[Drawing 5] The vertical section front view at the time of fishing line emission of this invention important section.

[Drawing 6] The front view at the time of ***** picking of the bail support arm of this invention.

[Drawing 7] The front view at the time of fishing line emission of the bail support arm of this invention.

[Drawing 8] The vertical section side elevation at the time of ***** picking of the bail support arm of this invention.

[Drawing 9] The vertical section side elevation at the time of fishing line emission of the bail support arm of this invention.

[Drawing 10] The front view of the 2nd example of this invention.

[Drawing 11] It is a notching front view at the time of this ***** picking a part.

[Drawing 12] It is a notching front view at the time of this fishing line emission a part.

[Drawing 13] The front view at the time of ***** picking of this bail support arm.

[Drawing 14] The front view at the time of fishing line emission of this bail support arm.

[Drawing 15] The vertical section side elevation at the time of this fishing line emission.

[Description of Notations]

- 1 Body of Reel
- 2 Rotor
- 3 Handle
- 4 Bail
- 9 Engagement Concave Heights
- 9' Heights
- 9" Crevice
- 11 Spring
- 12 Engagement Pawl
- 13 Engagement Inclination-Cam-Die Side
- 14 Engagement Inclination-Cam-Die Side

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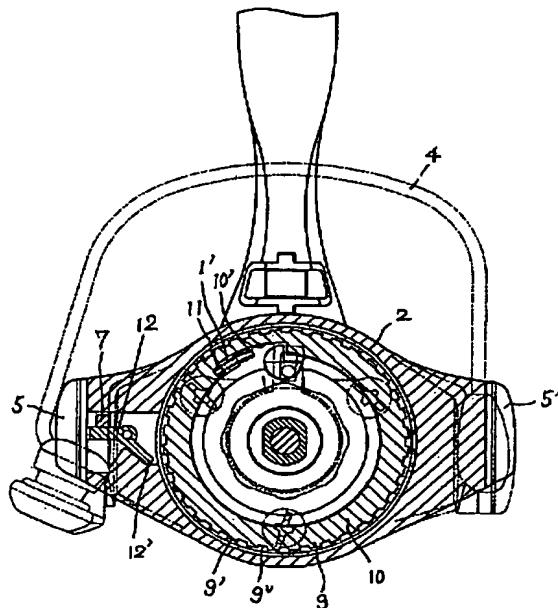
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(54)【発明の名称】 魚釣用スピニングリール

(57)【要約】

【課題】 魚釣用スピニングリールにおいて釣糸を放出するためベールを反転操作する場合にベールを釣糸放出位置に確実に反転保持するようにして魚釣り操作時の釣糸放出操作を容易にする。

【解決手段】 ハンドル3と連動するローター2に設けたベール4を釣糸捲取り位置と釣糸放出位置に反転自在に振分け付勢するように形成すると共にリール本体1の周方向に設けた係合凹凸部9を周方向に小範囲だけ回動可能に形成し、前記ベール4の反転作用と連動する係合爪12の前記係合凹凸部9に対する衝接作用で係合凹凸部12を僅かに回動しながらその凹部に係合爪12を係合して釣糸放出時にベール4を釣糸放出位置に確実に保持するようにする。



【特許請求の範囲】

【請求項1】 ハンドルと連動して回転するローターに設けたペールを釣糸巻取り位置と釣糸放出位置とに反転可能に振分け自在に形成すると共に前記ペールの反転作用と連動する係合爪を前記ローターに設け、該係合爪をペールの釣糸放出位置においてリール本体の周方向に設けた係合凹凸部に係合自在に形成し、ローターの回転により前記ペールを釣糸巻取り位置に反転復帰するようにした魚釣用スピニングリールにおいて、前記係合凹凸部をリール本体に小範囲だけ回動可能に支持し、前記係合凹凸部に対する係合爪の衝接作用で係合凹凸部を回動して係合爪をその凹部に係合するように形成したことを特徴とする魚釣用スピニングリール。

【請求項2】 係合凹凸部をローターの逆転方向にバネで付勢して支持したことを特徴とする請求項1記載の魚釣用スピニングリール。

【請求項3】 係合爪をローターに回動可能に支持しその回動衝接作用で係合凹凸部を回動して凹部に係合するようにしたことを特徴とする請求項1又は2記載の魚釣用スピニングリール。

【請求項4】 係合爪を係合凹凸部にその軸方向から係合自在に形成し、前記係合爪と係合凹凸部の凸部とに夫々係合傾斜カム面を形成し係合爪の係合傾斜カム面の係合凹凸部の係合傾斜カム面に対する衝接作用で係合凹凸部を回動して係合爪を凹部に係合するように形成したことを特徴とする請求項1又は2記載の魚釣用スピニングリール。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】 本発明は魚釣用スピニングリールにおけるペール反転機構の改良に関する。

【0002】

【従来の技術】 魚釣用スピニングリールにおけるペール反転機構は、仕掛投擲のため釣糸放出状態に反転したペールをハンドルの回転操作と連動せしめて釣糸巻取り状態に復帰するように構成されているが、ペールの釣糸放出位置と釣糸巻取り位置への振分け作用はデットポイントバネの付勢作用で行っているため、またリール本体に設けた反転凹凸部が一箇所のみのため、ローターの回転によるペール反転機構の助走距離が長くなり仕掛け投擲時の慣性力でハンドルが回転てしまい、ペール反転機構が誤作動してペールが釣糸巻取り位置に復帰し放出中の釣糸を切断する問題点がある。そこでこの欠陥を解消すべく実開昭56-68471号公報や実開昭56-111675号公報に見られるように、ペールの釣糸放出位置への反転時にローターに設けた係合爪をリール本体に設けた係合凹凸部に係合するようにして仕掛け投擲時のペールの反転復帰を防止することが知られている。

【0003】

【発明が解決しようとする課題】 しかしながら前記公知

の方式はどれもペールを釣糸放出状態に反転せしめる際にローターに設けられた係合爪とリール本体に形成された係合凹凸部との関係位置でペールの反転操作時に係合爪が係合凹凸部の凹部に係合せず凸部に乗り上げた状態になった場合、仕掛け投擲時のペール反転操作を円滑確実に行うことができず、魚釣り操作機能を低下せしめる問題点がある。本発明はこのような問題点を改善して仕掛け投擲時のペールの反転操作を常時円滑確実に行うことができるようとしたスピニングリールのペール反転機構を提供し、魚釣り操作機能を向上することを目的とするものである。

【0004】

【課題を解決するための手段】 本発明は前記目的を達成するために、ハンドルと連動して回転するローターに設けたペールを釣糸巻取り位置と釣糸放出位置とに反転可能に振分け自在に形成すると共に前記ペールの反転作用と連動する係合爪を前記ローターに設け、該係合爪をペールの釣糸放出位置においてリール本体の周方向に設けた係合凹凸部に係合自在に形成し、ローターの回転により前記ペールを釣糸巻取り位置に反転復帰するようにした魚釣用スピニングリールにおいて、前記係合凹凸部をリール本体に小範囲だけ回動可能に支持し、前記係合凹凸部に対する係合爪の衝接作用で係合凹凸部を回動して係合爪をその凹部に係合するように形成したことを特徴とするものであり、特に前記係合凹凸部をローターの逆転方向にバネで付勢したときは一層ペールの反転操作を円滑確実に行うことができ、また前記係合爪はローターに回動可能に軸着しその回動衝接作用で係合凹凸部を回動してこれを凹部に係合する場合と、係合爪を係合凹凸部に対してその軸方向から係合自在に形成し、係合爪と係合凹凸部の凸部とに夫々形成した係合傾斜カム面の衝接作用で係合凹凸部を回動して係合爪を凹部に係合する場合がある。

【0005】

【発明の実施の形態】 本発明の実施の形態を図面の実施例について説明すると、スピニングリールのリール本体1の前部に回転可能に支持されたローター2は公知のようにハンドル3の回動と連動回転するように構成されると共にその両側にはこれまた公知のように釣糸を案内するペール4の両端部を反転自在に軸支したペール支持腕5・5'が一体的に設けられ、また前記ペール支持腕5には前記ペール4の反転作用と連動しつつデットポイントバネ6を有する作動部材7が設けられ、前記デットポイントバネ6の付勢力で前記反転自在のペール4を釣糸巻取り位置と釣糸放出位置に振分け付勢するように構成され、更にローター2の前部にはハンドル3の回動で前後摺動自在のスプール8が支持されており、ローター2をハンドル3で回動すると共にスプール8を往復摺動することにより、釣糸巻取り位置におけるペール4によって釣糸をスプール8に巻回できるように形成されている。

【0006】前記リール本体1の前部周縁部には外周部に係合凹凸部9を有する環状体10が小範囲、例えば10度前後回動可能に支持されると共にその内周部に形成された切欠部10'には一端をリール本体1の係止部1'に係止されたバネ11が支持され、前記係合凹凸部9を有する環状体10をローター2の逆転方向に付勢するように形成されている。また前記支持腕5の基部には前記作動部材7に係合自在に係合爪12が軸着されその先端爪部は前記係合凹凸部9に係合自在に形成されている。

【0007】従って釣糸を放出するには、逆転防止状態に保持されたローター2のペール4をデットポイントバネ6の付勢力に抗して釣糸放出位置に反転すると、係合爪12は作動部材7によって回動され爪部12'が前記係合凹凸部9の凸部9'に衝接してこれをバネ11に抗して僅かに回動せしめながらその凹部9"に係合してペール4を釣糸放出位置に係止保持するものであり、またこの状態においてローター2をハンドル3で釣糸巻取り方向に回転すると、係合凹凸部9の凹部9"に係合している係合爪12は回動され作動部材7を介してペール4をデットポイントバネ6の振分け付勢力でより釣糸巻取り位置に反転復帰せしめ、ペール4は釣糸を係止してスプール8に巻回するものである。

【0008】図10乃至図15に示す実施例は、ペール4と連動する作動部材7の下端に先端に係合傾斜カム面13を有する係合爪12を一体に折曲形成した係合爪12が係合凹凸部9の環状体10の軸方向からその凸部9'の後側面に形成した係合傾斜カム面14に係合自在に形成されると共にデットポイントバネは作動部材7に設けないで他方のペール支持腕5'に設けてペール4を釣糸巻取り位置と釣糸放出位置に振分け付勢するように構成されている。

【0009】従ってペール4の反転によりその作動部材7を図11の釣糸巻取り位置から図12釣糸放出位置に移動した場合係合爪12が係合凹凸部9の凹部9"の位置にあるときはそのままこれに係合するが、係合爪12が凸部9'の位置にあるときには、係合爪12の係合傾斜カム面13は係合凹凸部9の凸部9'の係合傾斜カム面13に係合しながら係合凹凸部9をバネ11に抗してこれを僅かに回動しその凹部9"に係合してペール4を釣糸放出位置に保持するものであり、この状態においてローター2を釣糸巻取り方向に回転すると、公知のようにペール支持腕5'のデットポイントバネの振分け付勢作用でペール4は釣糸巻取り位置に復帰して作動部材7は図11に示すようにその係合爪12が係合凹凸部9の係合位置から離間しペール4は釣糸を係止してスプール8に巻回するものである。

【0010】

【発明の効果】本発明はペールを釣糸巻取り状態から釣糸放出状態に反転して釣糸を放出する際に係合爪

の係合する係合凹凸部をリール本体に小範囲だけ回動可能に形成し、ペールの反転操作による係合爪の衝接係合作用は係合凹凸部を僅かに回動しながら係合爪を係合凹凸部の凹部に係合せしめるようにしたので、係合爪と係合凹凸部との相対位置関係に左右されずにペールを常時迅速確実に釣糸放出位置に反転保持することができ、釣糸の投擲操作を常時円滑容易に行うことができ、魚釣り操作機能を向上することができる。

【0011】また前記回転可能に支持した係合凹凸部をバネでローターの逆転方向に付勢したときは、係合爪による係合凹凸部の凹部に対する係合作用を一層円滑確実に行うことができ、ペールの反転操作機能を向上することができる。

【0012】更に本発明における係合爪を回動自在に軸着してその回動衝接作用で係合凹凸部の凹部に係合するようにするときは、係合爪の回動衝接作用が係合凹凸部と同一面内噛合状に行われ係合爪の係合作用が円滑に容易となると共に両者の係合機構の構成も簡易である利点がある。

【図面の簡単な説明】

【図1】本発明の釣糸巻取り時の一端切欠正面図。

【図2】本発明の釣糸巻取り時の一端切欠正面図。

【図3】図1A-A線断面図。

【図4】本発明要部の釣糸巻取り時の縦断正面図。

【図5】本発明要部の釣糸放出時の縦断正面図。

【図6】本発明のペール支持腕の釣糸巻取り時の正面図。

【図7】本発明のペール支持腕の釣糸放出時の正面図。

【図8】本発明のペール支持腕の釣糸巻取り時の縦断側面図。

【図9】本発明のペール支持腕の釣糸放出時の縦断側面図。

【図10】本発明の第2実施例の正面図。

【図11】同釣糸巻取り時の一端切欠正面図。

【図12】同釣糸放出時の一端切欠正面図。

【図13】同ペール支持腕の釣糸巻取り時の正面図。

【図14】同ペール支持腕の釣糸放出時の正面図。

【図15】同釣糸放出時の縦断側面図。

【符号の説明】

40 1 リール本体

2 ローター

3 ハンドル

4 ペール

9 係合凹凸部

9' 凸部

9" 凹部

11 バネ

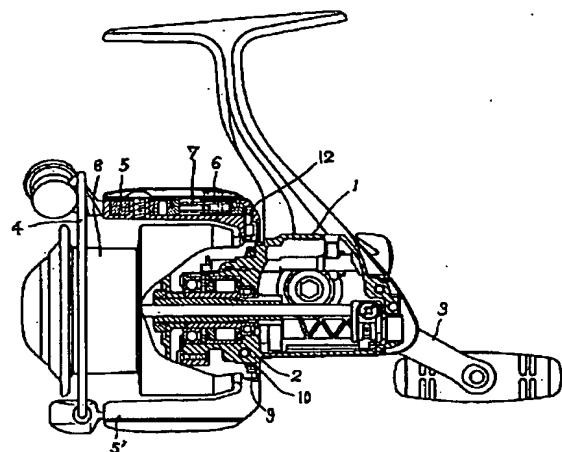
12 係合爪

13 係合傾斜カム面

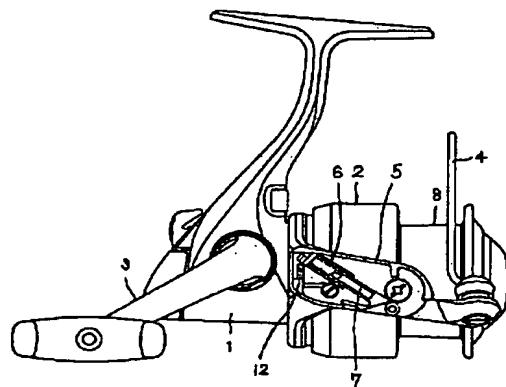
14 係合傾斜カム面

50

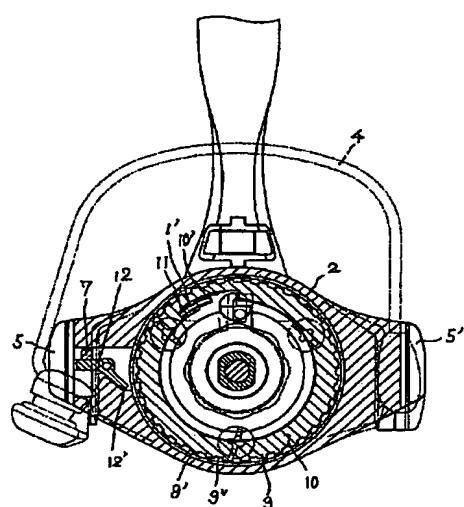
【図1】



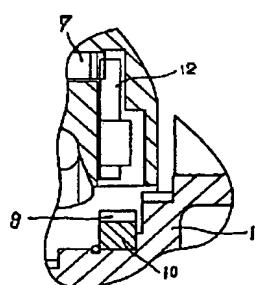
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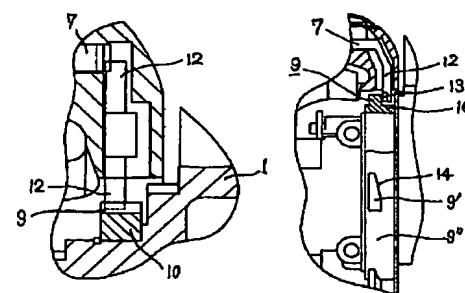
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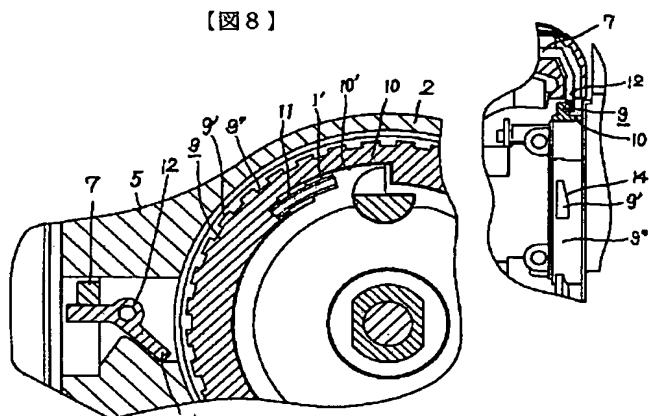
【図4】



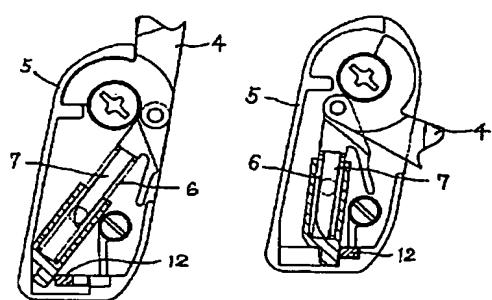
【図5】



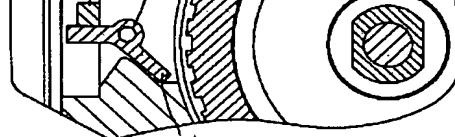
【図12】



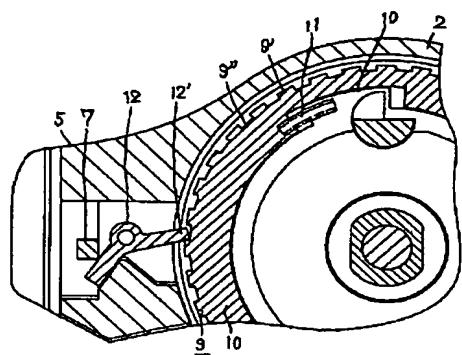
【図6】



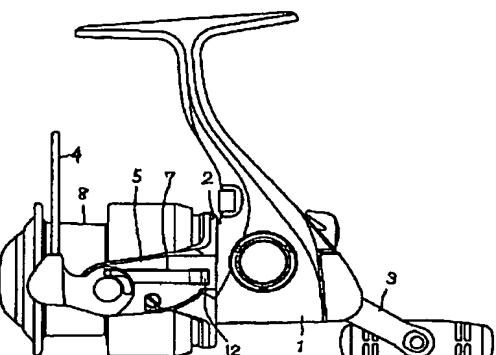
【図7】



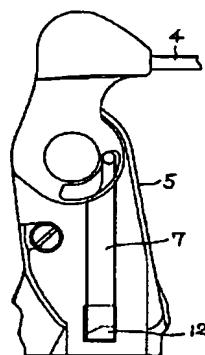
【図9】



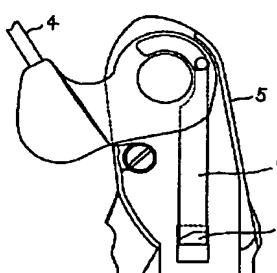
【図10】



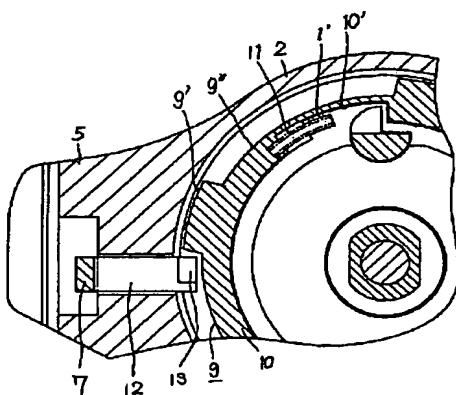
【図13】



【図14】



【図15】



フロントページの続き

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